REMARKS

In the February 15, 2005 Office Action, claims 1-10 stand rejected in view of prior art. In the February 15, 2005 Office Action, all of the claims stand rejected in view of prior art. No other objections or rejections were made in the Office Action.

Status of Claims and Amendments

In response to the February 15, 2005 Office Action, Applicant has amended the specification to correct an error discovered upon review as indicated above, respectfully traverses the rejections, and has included comments to support the traversal. None of the claims is being amended by the current Amendment. Thus, claims 1-10 are pending, with claims 1 and 5 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

Rejections - 35 U.S.C. § 103

On pages 2 and 3 of the Office Action, claims 1, 4, 5, and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,186,557 (Arai et al.) in view of U.S. Patent No. 4,391,096 (Polzer et al.) in view of U.S. Patent No. 3,797,243 (Trusov). On pages 3-5 of the Office Action, claims 1, 4, 5, 9, and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,726,185 (Shigemasa et al.) in view of Polzer et al. in view of Trusov. On pages 5 and 6 of the Office Action, claims 2, 3, 6, and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Arai et al. as modified by Polzer et al. as modified by Trusov in view of U.S. Patent No. 2,242,515 (Dodge). On page 6 of the Office Action, claims 2, 3, and 6-8 stand rejected as being unpatentable over Shigemasa et al. as modified by Polzer et al. as modified by Trusov in view of Dodge. In response, Applicant respectfully traverses the rejections thereto and has included comments

to support the traversal. Specifically, Applicant respectfully asserts that there is no motivation to combine the various references.

Claims 1 and 5

The Office Action relies on Arai et al. or Shigemasa et al. to disclose a torque converter that has an impeller, turbine, and stator constituting a torus with a flatness ratio of less than 0.8. Further, the Office Action relies on Polzer et al. to disclose a turbine wheel having 37 blades, which is a feature not recited in claim 1 or 5 of the present application. Moreover, the Office Action relies on Trusov to disclose an impeller with blades that are substantially the same number as those of the turbine wheel.

Applicant respectfully asserts that Trusov does not disclose using at least 37 impeller blades, and that modifying the torque converter to have at least 37 impeller blades would destroy the teaching thereof. As seen in Table 1 of Trusov in column 8, the range of 15-36 impeller blades with the associated entrance and exit angles is provided to use one converter with engines of different power ratings. Further, Applicant respectfully asserts that if the entrance and exit angles of Trusov were applied to Polzer et al., Polzer et al. would not be able to provide a turbine with 37 blades. Thus, Applicant respectfully asserts that combining these references with either Arai et al. or Shigemasa et al. would not result in the inventions of claims 1 or 5 of the present application.

Trusov discloses a torque converter with a wide passage area. Further, referring to Figures 8a and 10a of Trusov, Trusov discloses a torque converter that appears to have been drawn to scale having a ***flatness ratio of approximately 0.98*** to accommodate a wide stator blade. To modify the size of the stator blades, number thereof, or number of impeller blades to realize the flatness ratio of claims 1 or 5 of the present application would destroy the

teaching thereof. Thus, Applicant respectfully asserts that the aforementioned combinations do not render claims 1 and 5 obvious.

Further, as seen in Figure 1a of Shigemasa et al., Shigemasa et al. disclose a front cover 10a, but fail to disclose flexible plate that non-rotatably connected as recited in claim 5 of the present application. Further, neither Trusov nor Polzer et al. disclose a flexible plate. Thus, Applicant respectfully asserts that the combination of Shigemasa et al., Trusov, and Polzer et al. does not render claim 5 of the present application obvious.

Moreover, Applicant respectfully asserts that the torque converters of claims 1 and 5 of the present invention have greater than expected results, which are evidence of nonobviousness. Referring to paragraphs [0028] and [0029] of the present application, it is stated that transmission efficiency becomes insufficient when the flatness ratio is less than 0.8. However, the torque converters of claims 1 and 5 of the present application exhibit allowable values when the ratios are less than 0.8, and even when the ratios is less than 0.7.

Claims 2 and 6

Applicant respectfully traverses the rejections to claims 2 and 6 for the reasons stated above, and further because Dodge fails to disclose an impeller with a prime number of blades. The Office Action states that Arai et al. or Shigemasa et al., Polzer et al., and Trusov do not disclose an impeller with a prime number of blades. As seen in the Figures disclosed by Dodge, there is no image showing a complete elevational view of the impeller blades, nor one that can be accurately extrapolated. Thus, Applicant respectfully asserts that the aforementioned combinations do not render claims 2 and 6 obvious.

Claims 3, 4, 7, and 9

Applicant respectfully traverses the rejections to claims 3, 4, 7, and 9 for the reasons stated above, and further because Trusov discloses a torque converter that is designed to have

a flatness ratio that exceeds 0.7. As stated in the Abstract of Trusov, Trusov discloses a torque converter with a wide passage area. Further, referring to Figure 8a of Trusov, Trusov discloses a torque converter that has an axial distance from the bottom of the turbine to the bottom of the impeller that is 50% (.25 x 2) of the axial height from the axis of rotation to the maximum radius of the circulation ring R. Moreover, as shown in Figure 10a of Trusov, the radial height is 63.5% (1-.365) of R Thus, the flatness ratio of the torque converter is ***at least*** 0.787. ***Moreover, since it appears that the drawings of Trusov are to scale, the flatness ratio is approximately 0.98.*** To modify the size of the stator blades, number thereof, or number of impeller blades to realize the flatness ratio of claims 3, 4, 7, or 9 of the present application would destroy the teaching thereof. Thus, Applicant respectfully asserts that the aforementioned combinations do not render claims 3, 4, 7, or 9 obvious.

Claims 8 and 10

Applicant respectfully traverses the rejections to claims 8 and 10 for the reasons stated above and because as seen in Figure 3 of Arai et al., Arai et al. fail to disclose a lockup device as recited in claims 8 and 10 of the present application.

Clearly the recited arrangements are ***not*** disclosed or suggested by the prior art of record. It is well settled in U.S. patent law that the mere fact that the prior art can be modified does ***not*** make the modification obvious, unless the prior art ***suggests*** the desirability of the modification. Accordingly, the prior art of record lacks any suggestion or expectation of success for combining the patents to create the Applicant's unique arrangement of a torque converter.

Therefore, Applicant respectfully requests that this rejection be withdrawn in view of the above comments and amendments.

Prior Art Citation

In the Office Action, additional prior art references were made of record. Applicant believes that these references do not render the claimed invention obvious.

* * *

In view of the foregoing amendment and comments, Applicant respectfully asserts that claims 1-10 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,

Todd M. Guise
Reg. No. 46,748
SHINJYU GLOBAL IP COUNSELORS, LLP
1233 Twentieth Street, NW, Suite 700
Washington, DC 20036
(202)-293-0444
Dated: 4/25/05

G:\03-Mar05-TSH\ED-US020444 Amendment